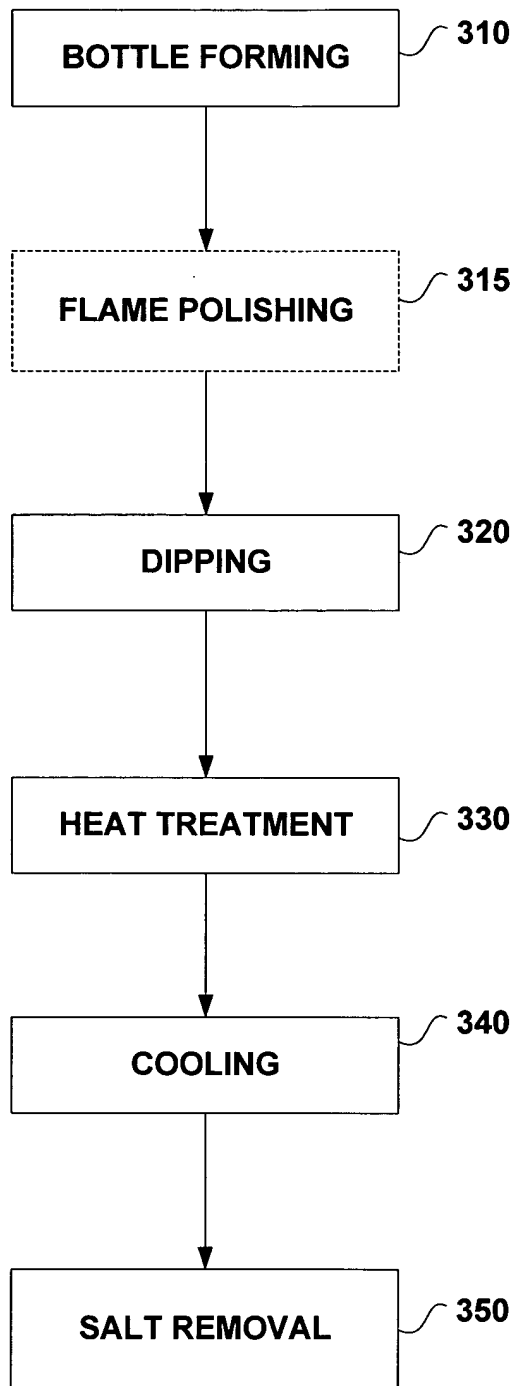


**FIGURE 1**  
(PRIOR ART)



**FIGURE 2**

# FLAME POLISHING

Induced Defects (50 micron) on flat plates

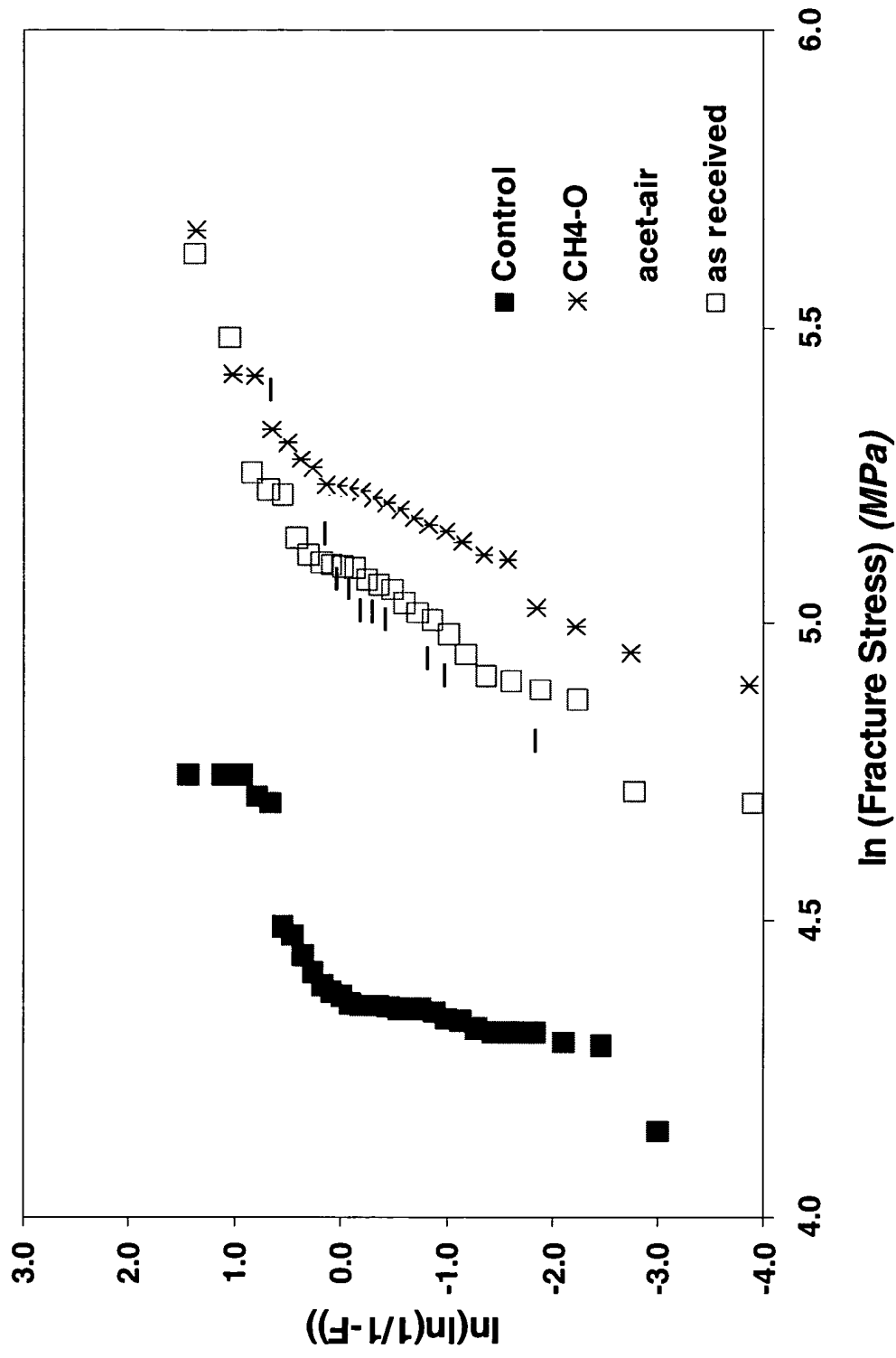
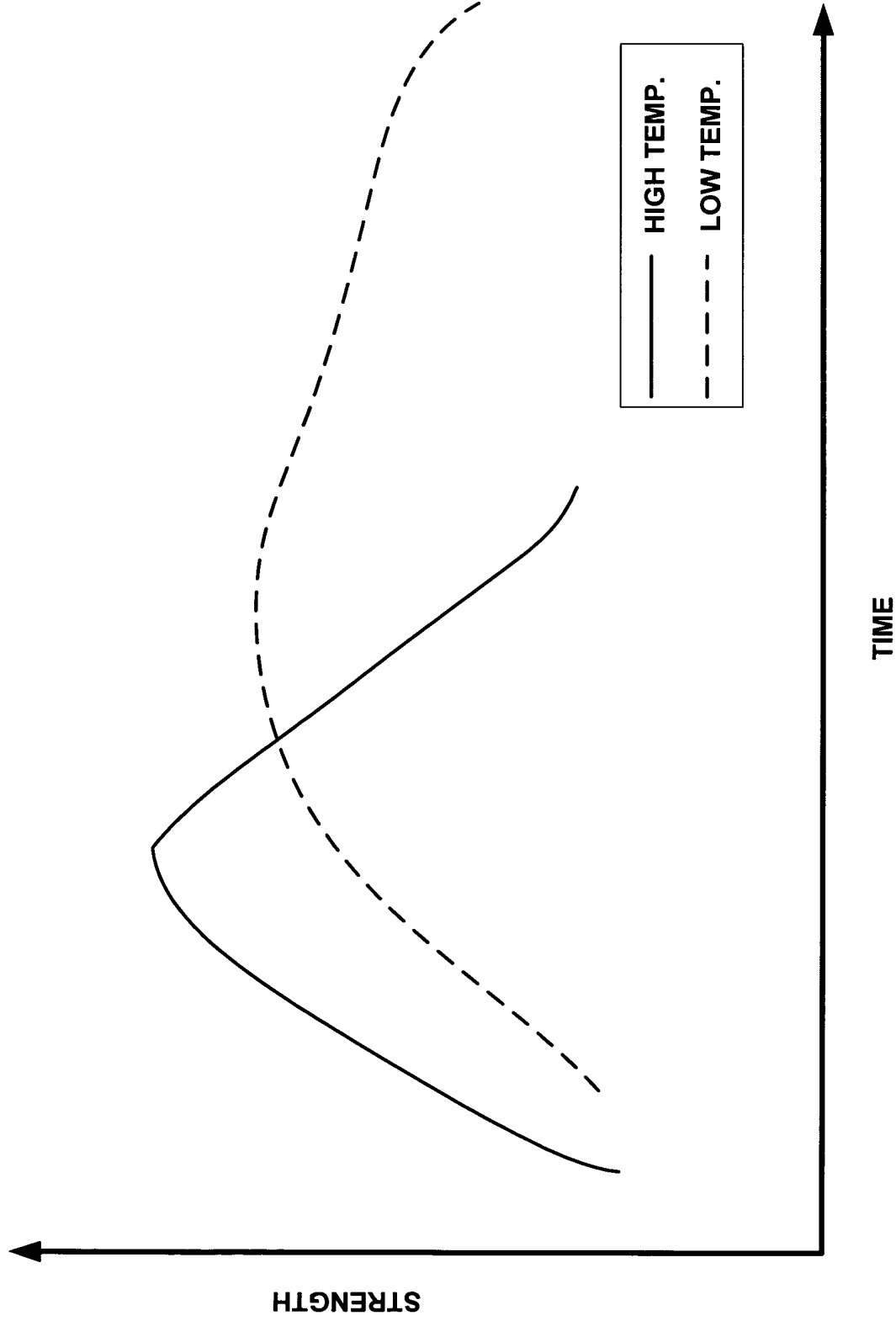
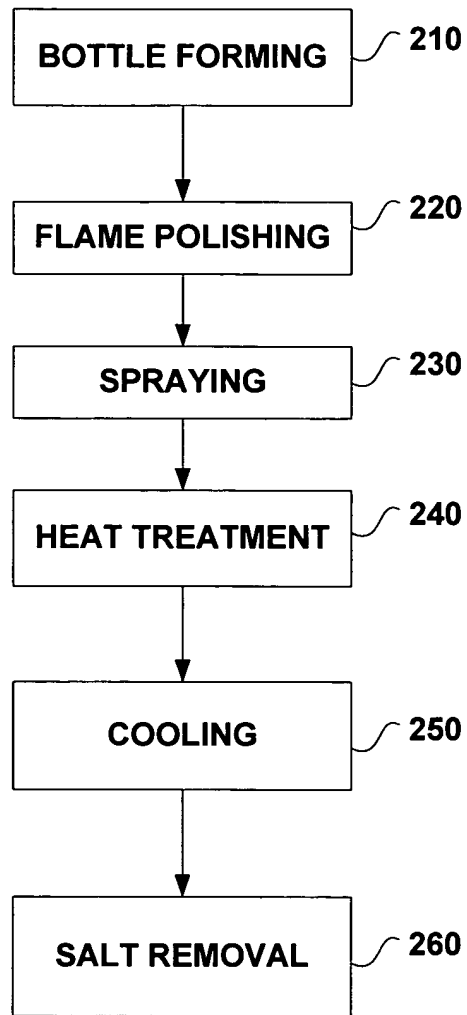


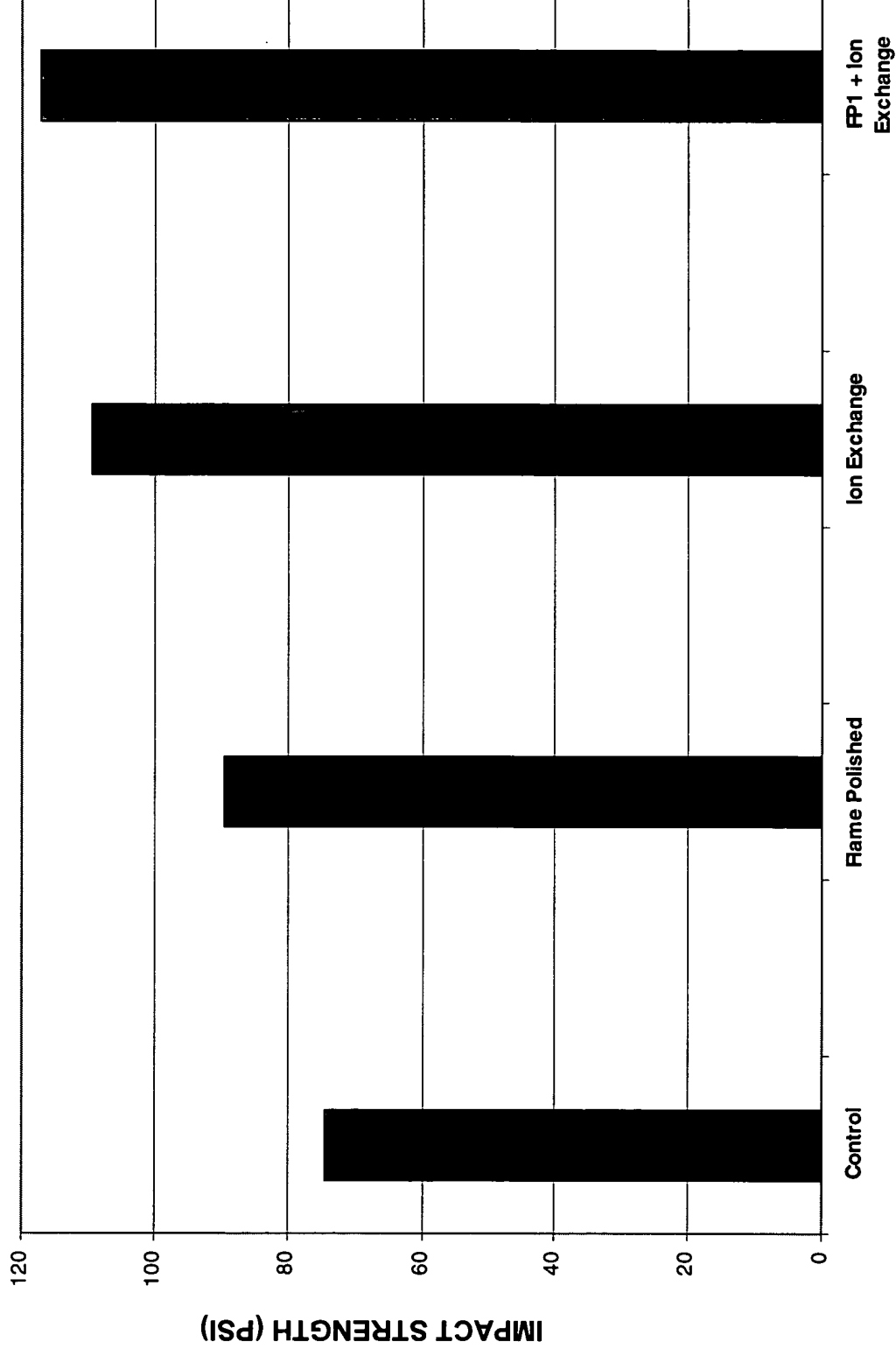
FIGURE 3



**FIGURE 4**



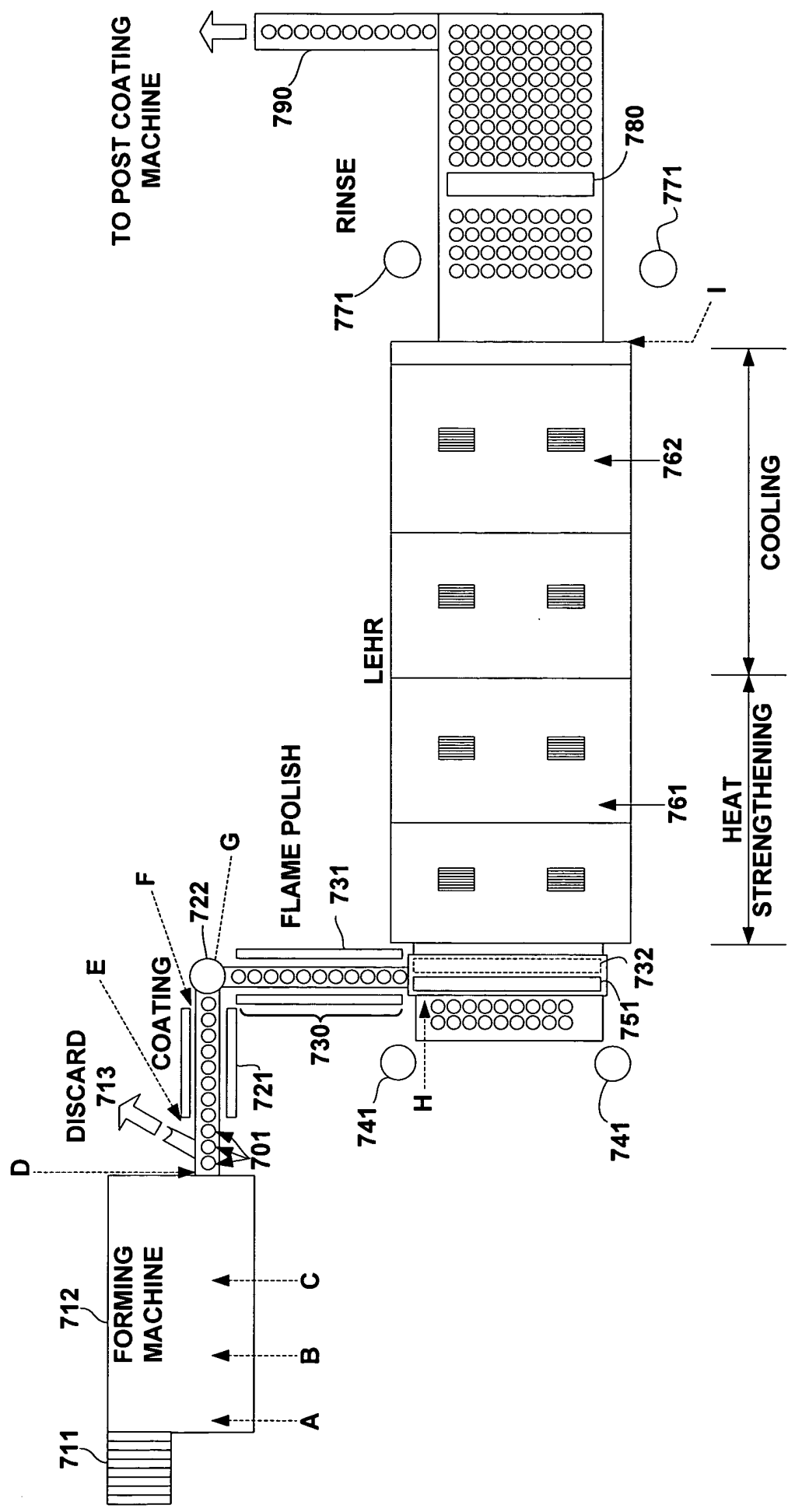
**FIGURE 5**



**FIGURE 6**

700

FIGURE 7



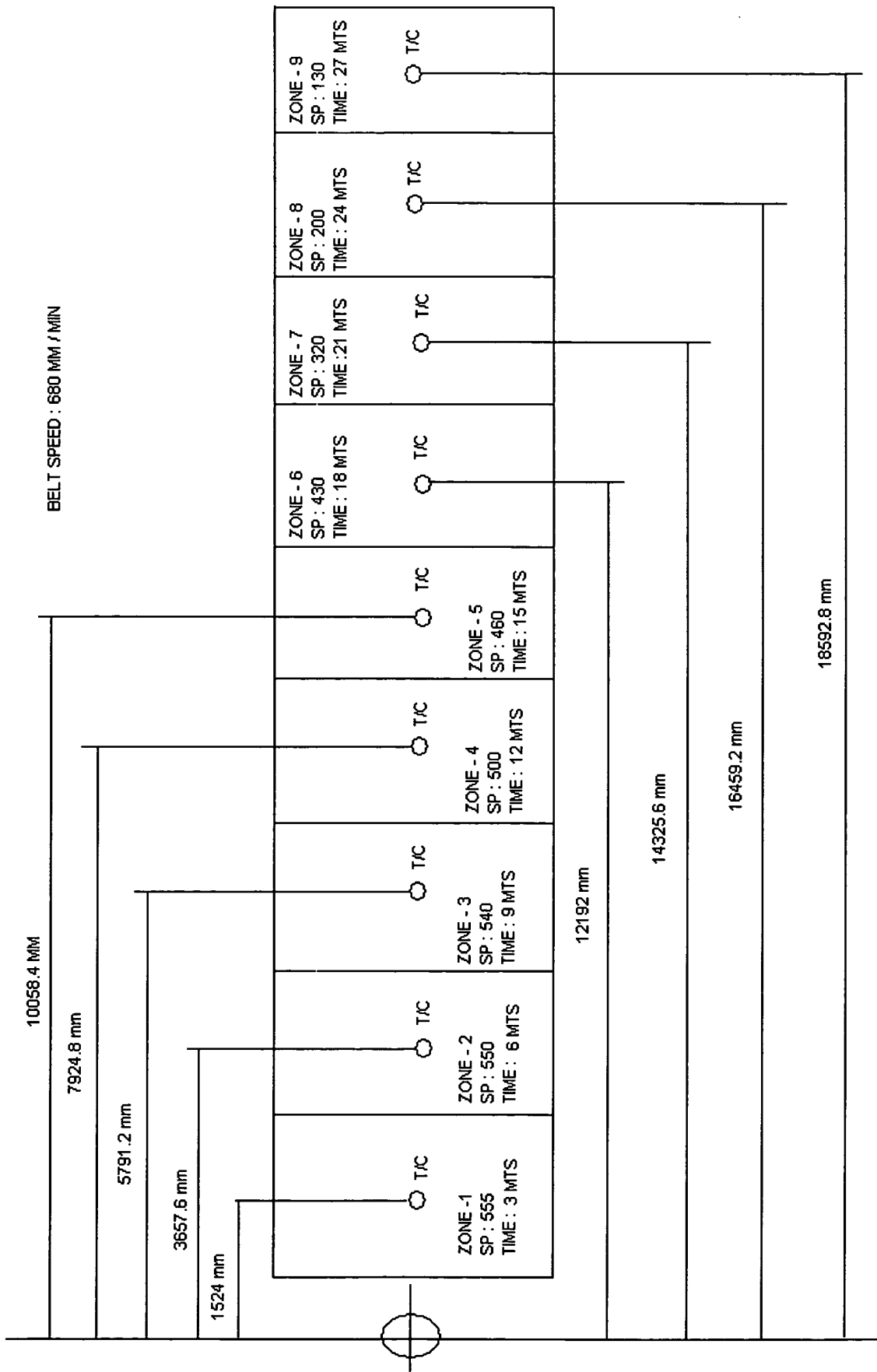
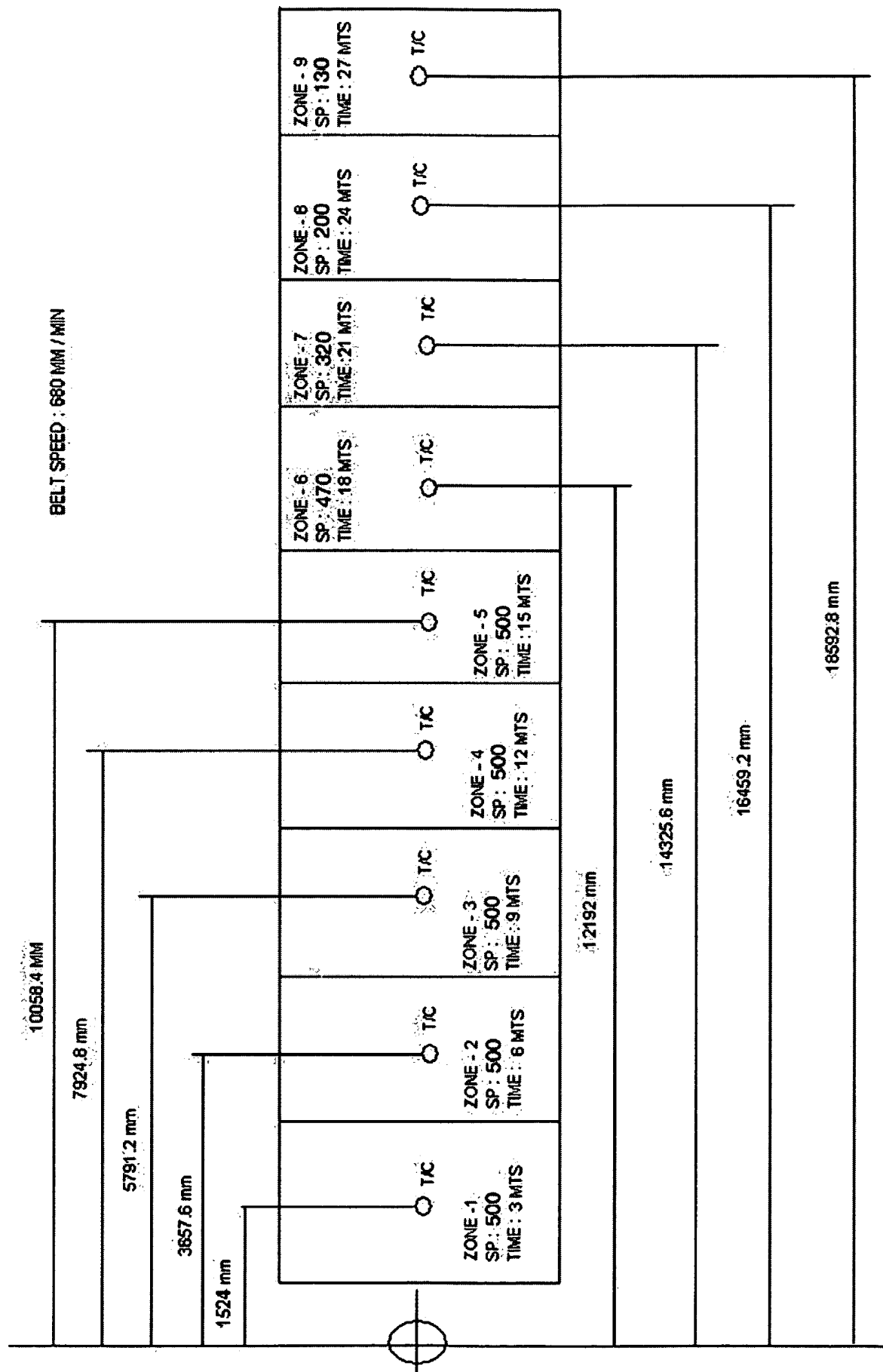
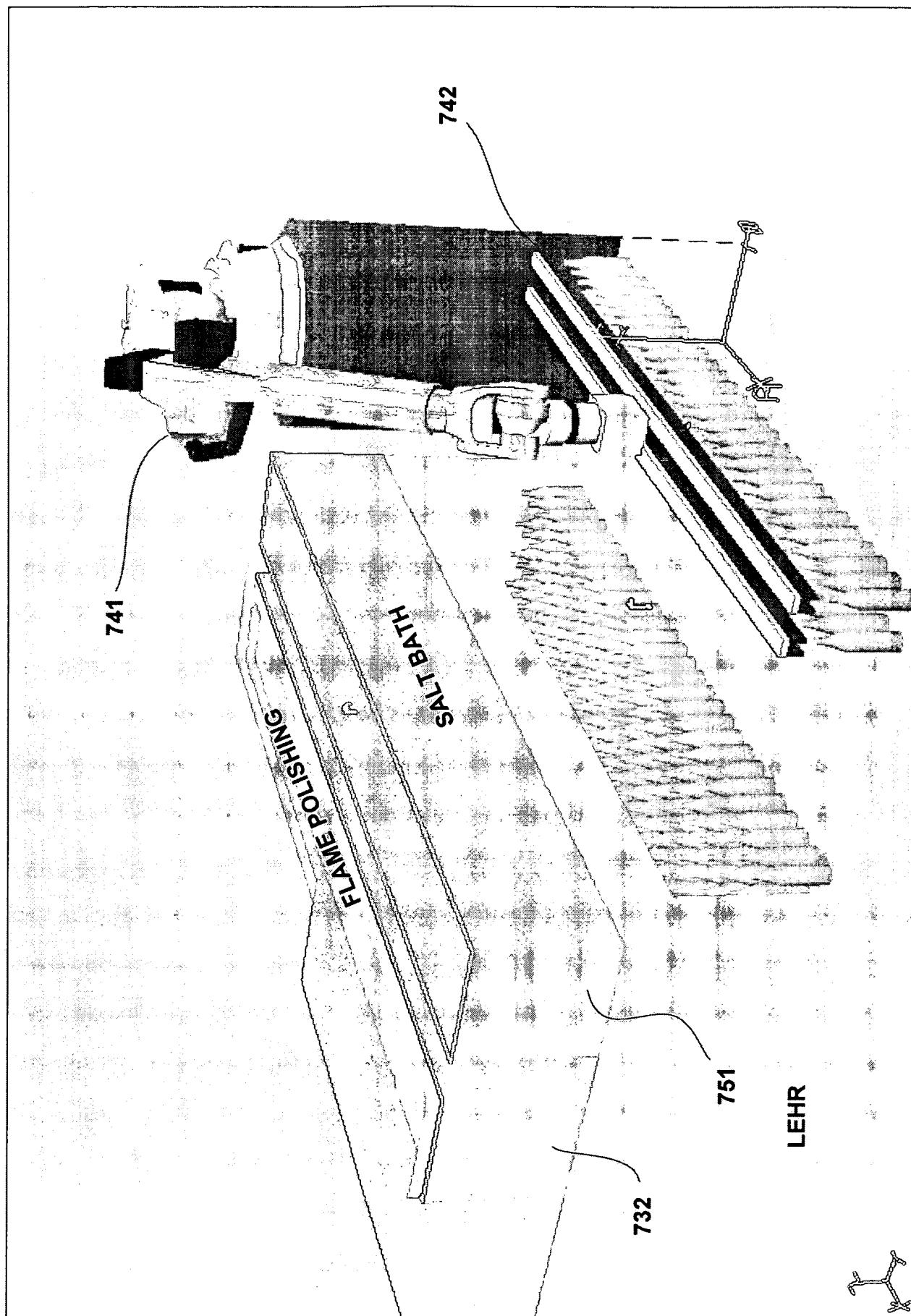


FIGURE 8A

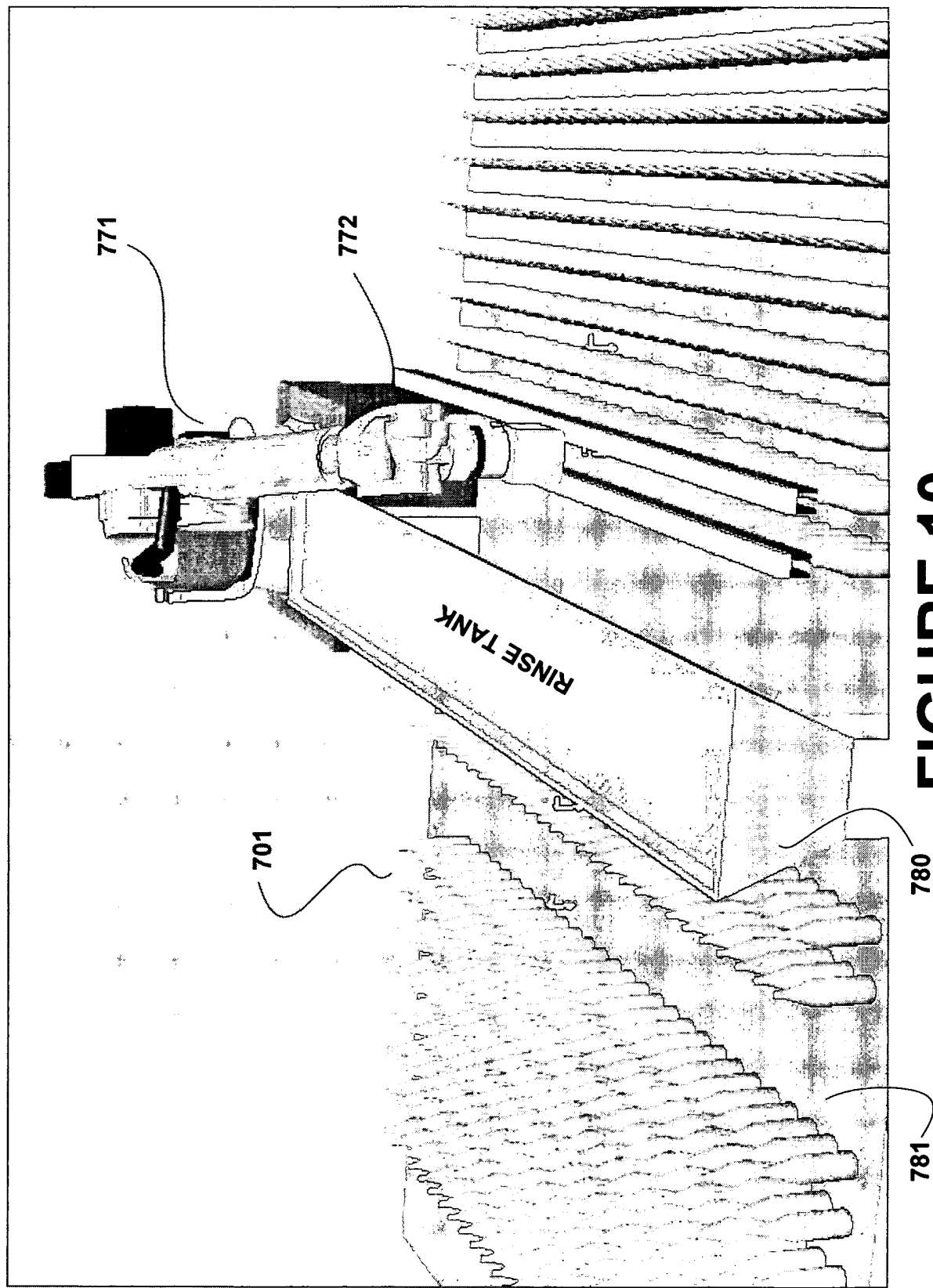




**FIGURE 8B**



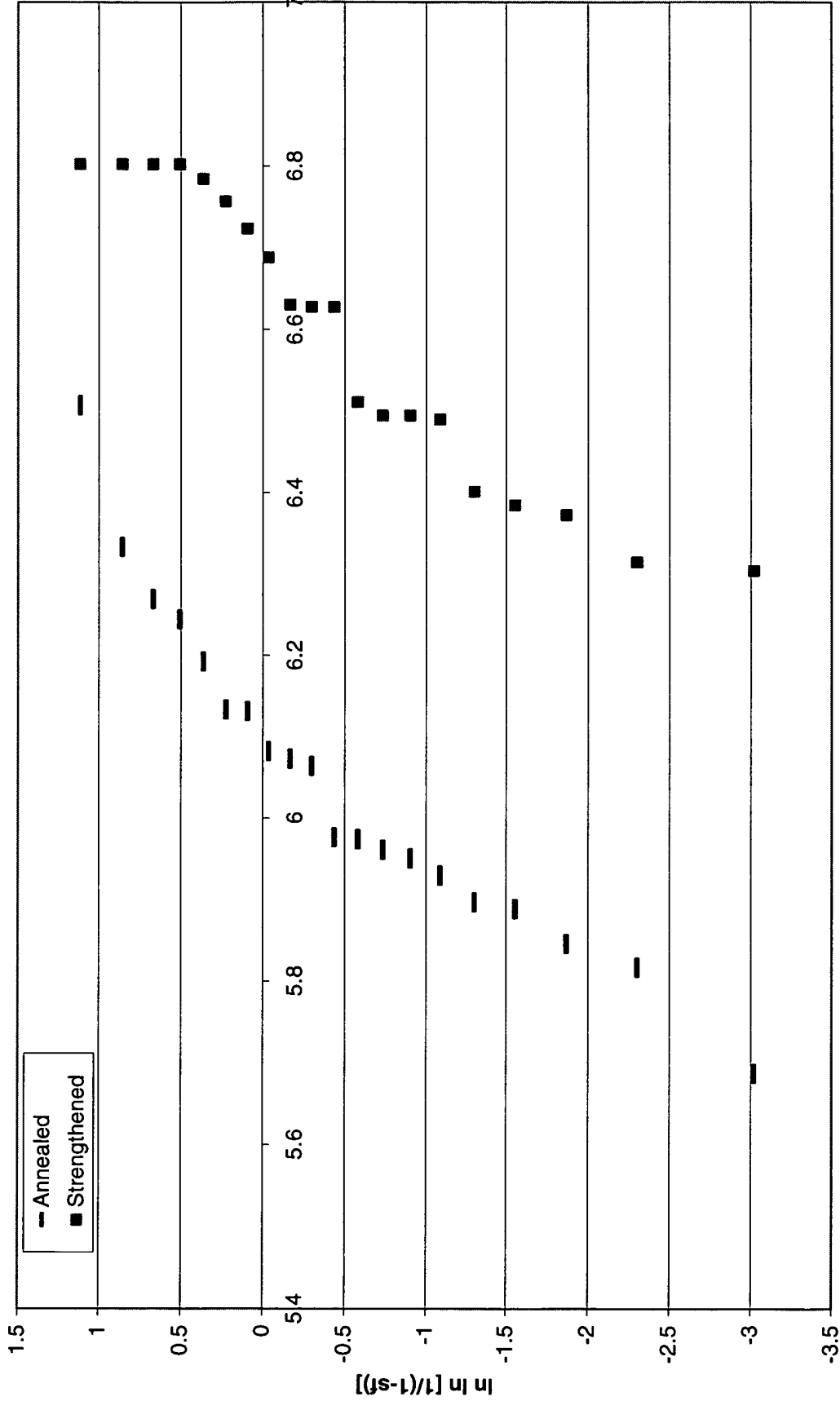
**FIGURE 9**



**FIGURE 10**

# RUN NO. 1

Pre-heat 1 m @ 510°C; dip 600°C; Flame Polish - Side and Bottom; 4 in/sec; Strengthen 20 m @ 520°C



$\ln (sf)$

## FIGURE 11

RUN NO. 2

Pre-heat 5 m @ 510°C; dip 630°C; Flame Polish - Side and Bottom; 4 in/sec; Strengthen 20 m @ 520°C

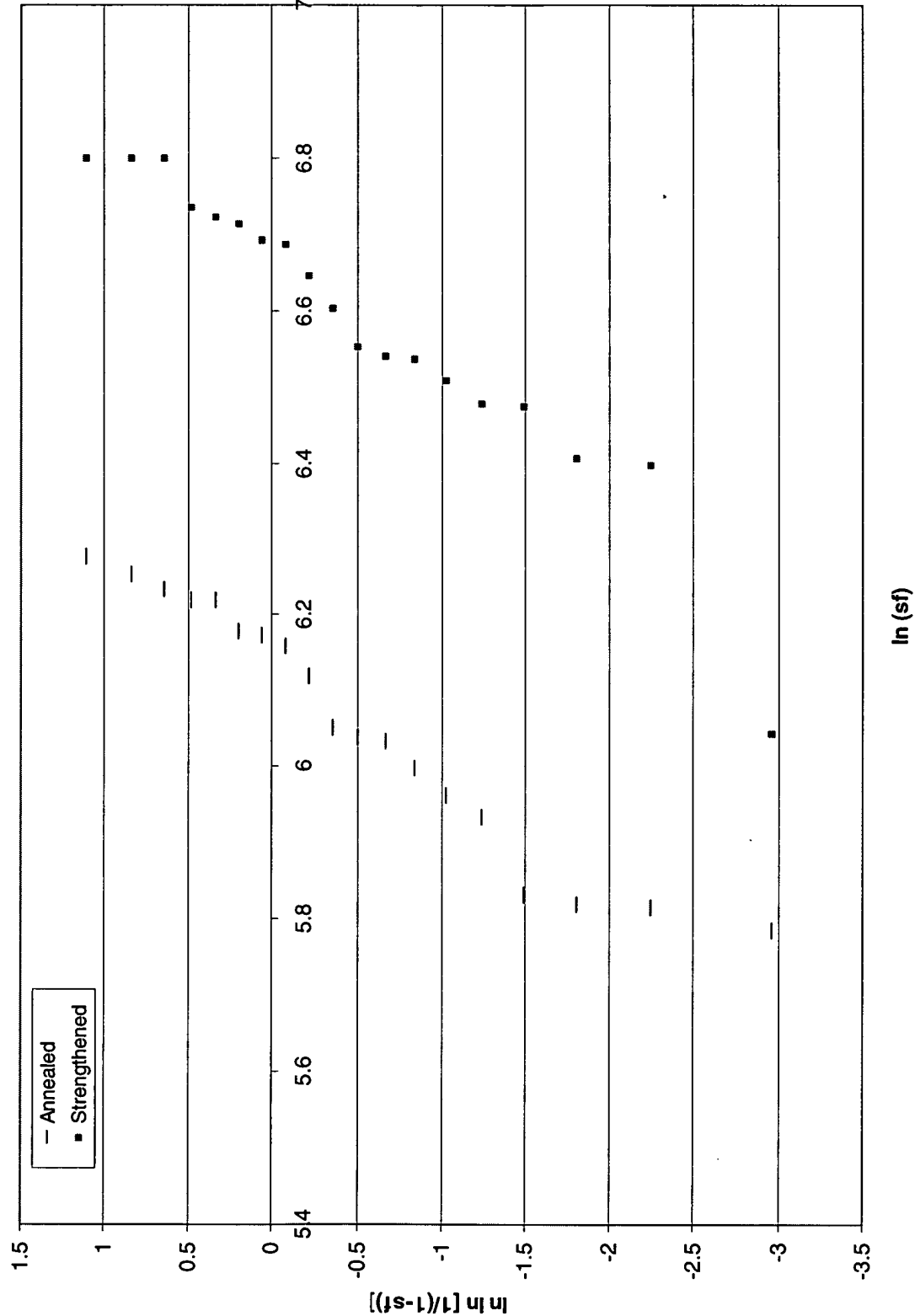
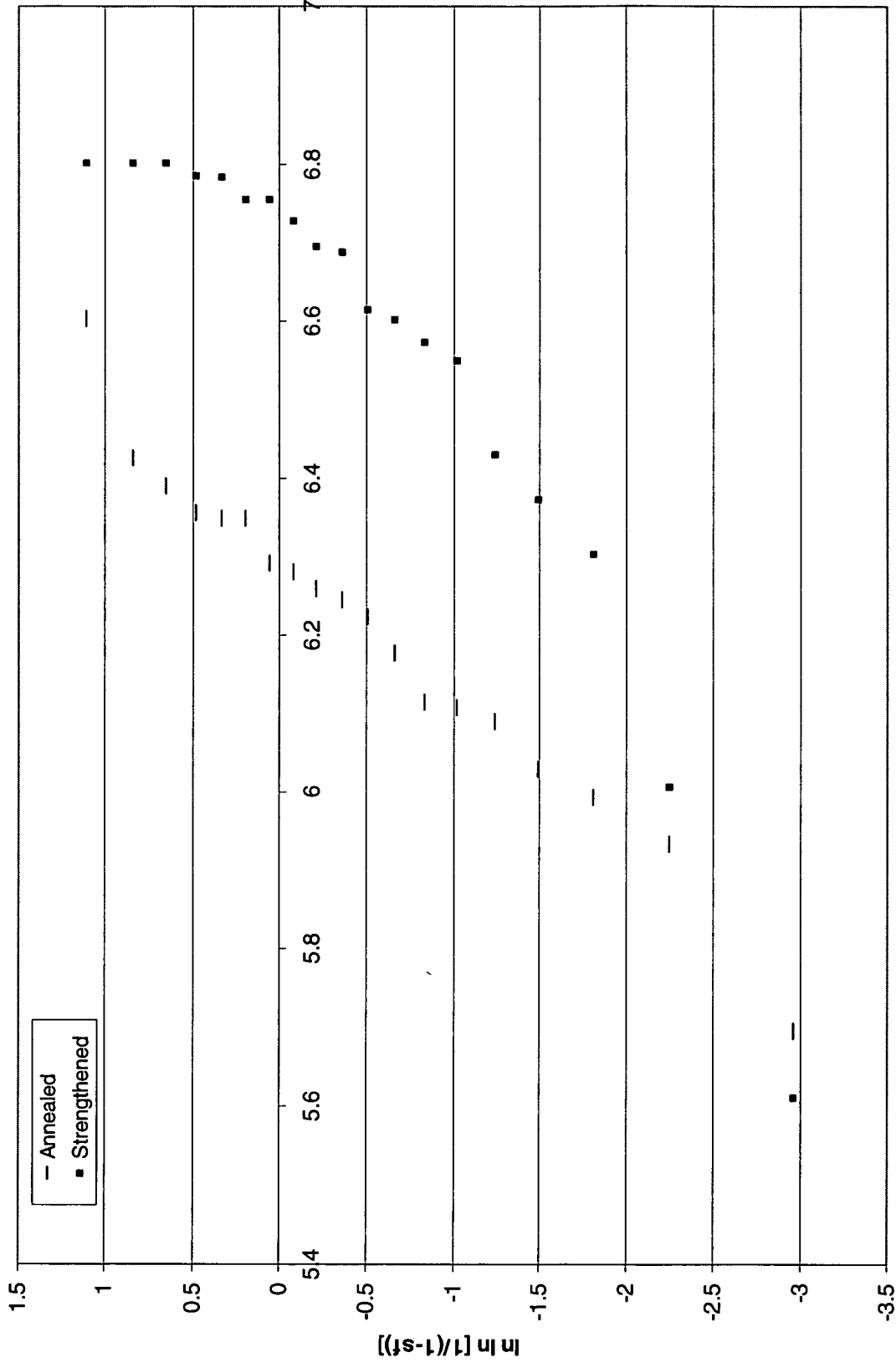


FIGURE 12

**RUN NO. 3**

**Pre-heat 5 m @ 550°C; dip 615°C; Strengthen 20 m @ 500°C**



**FIGURE 13**

# RUN NO. 4

Pre-heat 5 m @ 510°C; dip 600°C; Flame Polish - Side and Bottom; 4 in/sec; Strengthen 20 m @ 480°C

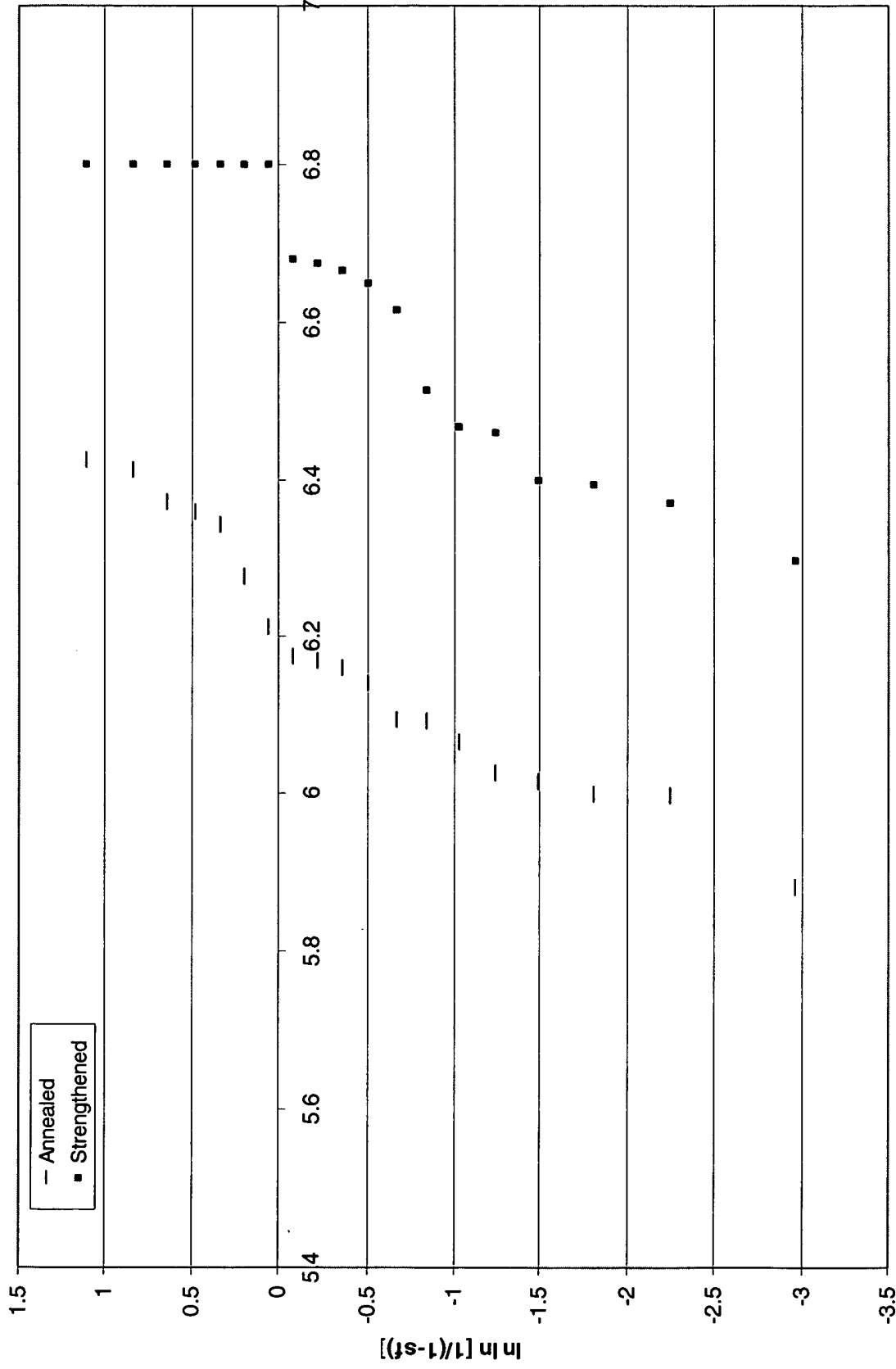
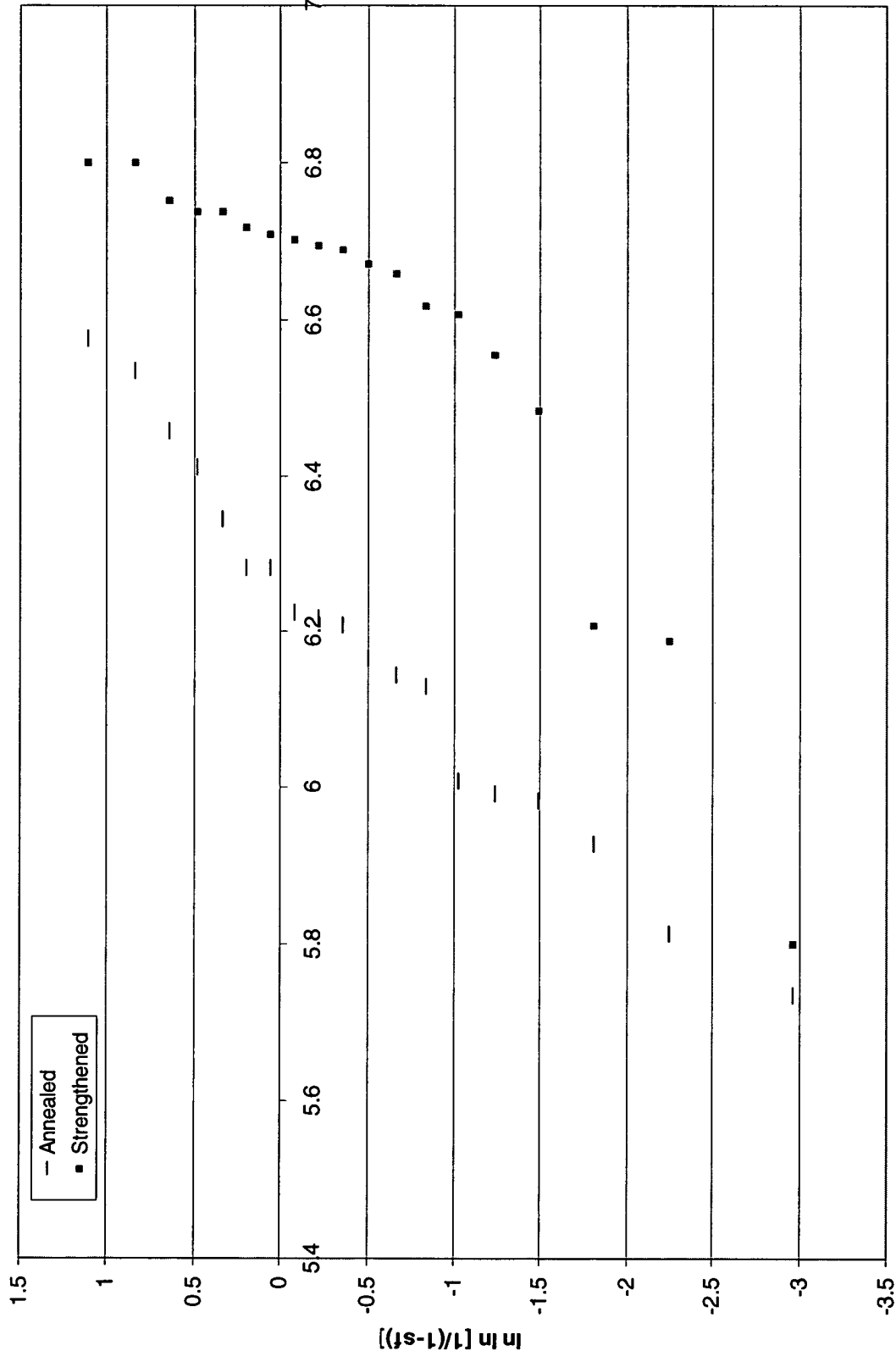


FIGURE 14

# RUN NO. 5

Pre-heat 5 m @ 510°C; dip 600°C; Flame Polish - Side and Bottom; 4 in/sec; Strengthen 20 m @ 520°C



$\ln (sf)$

## FIGURE 15



# RUN NO. 6

Pre-heat 1 m @ 550°C; dip 615°C; Strengthen 20 m @ 500°C

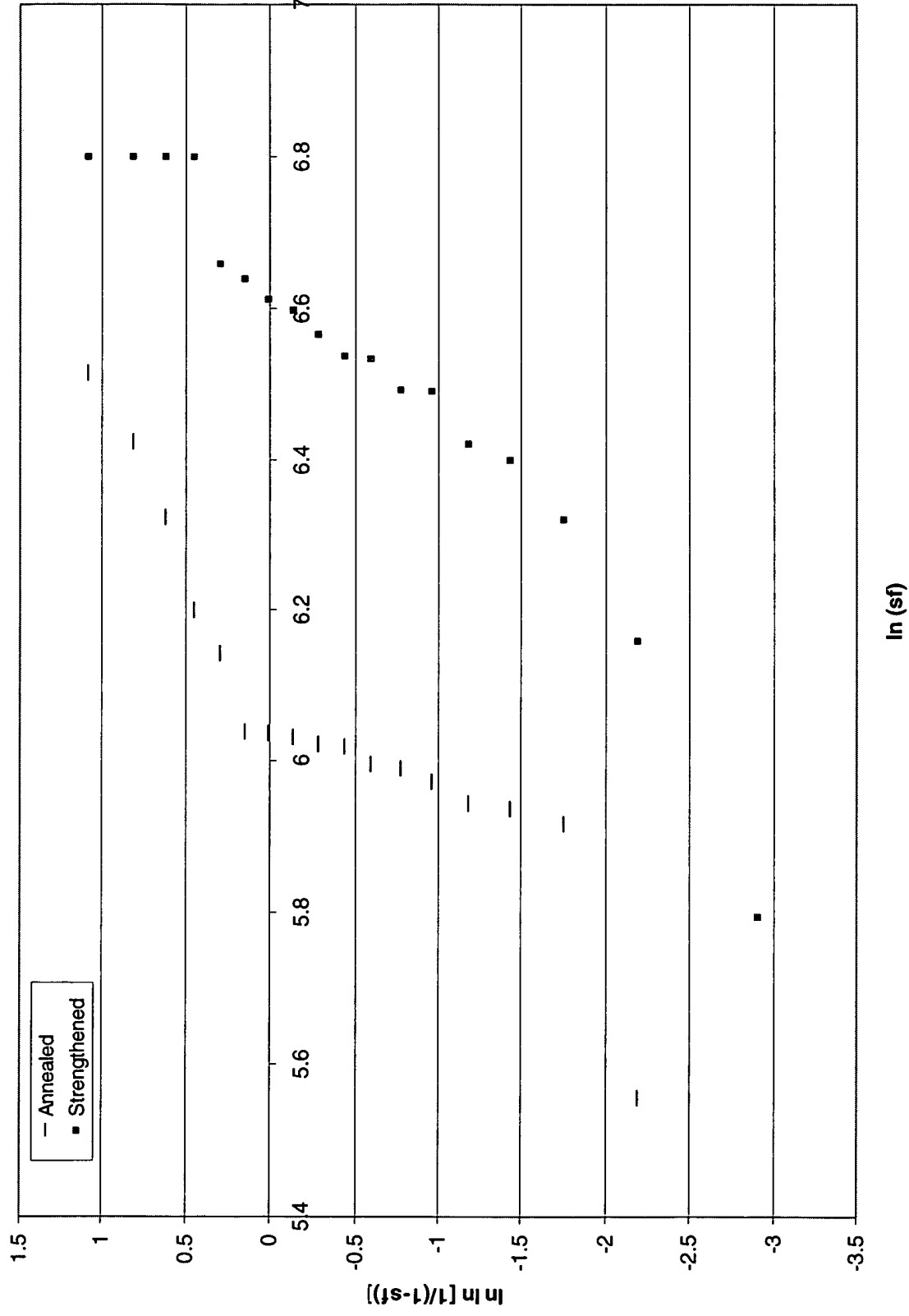


FIGURE 16

# RUN NO. 7

Pre-heat 1 m @ 510°C; dip 600°C; Flame Polish - Side and Bottom; 4 in/sec; Strengthen 20 m @ 480°C

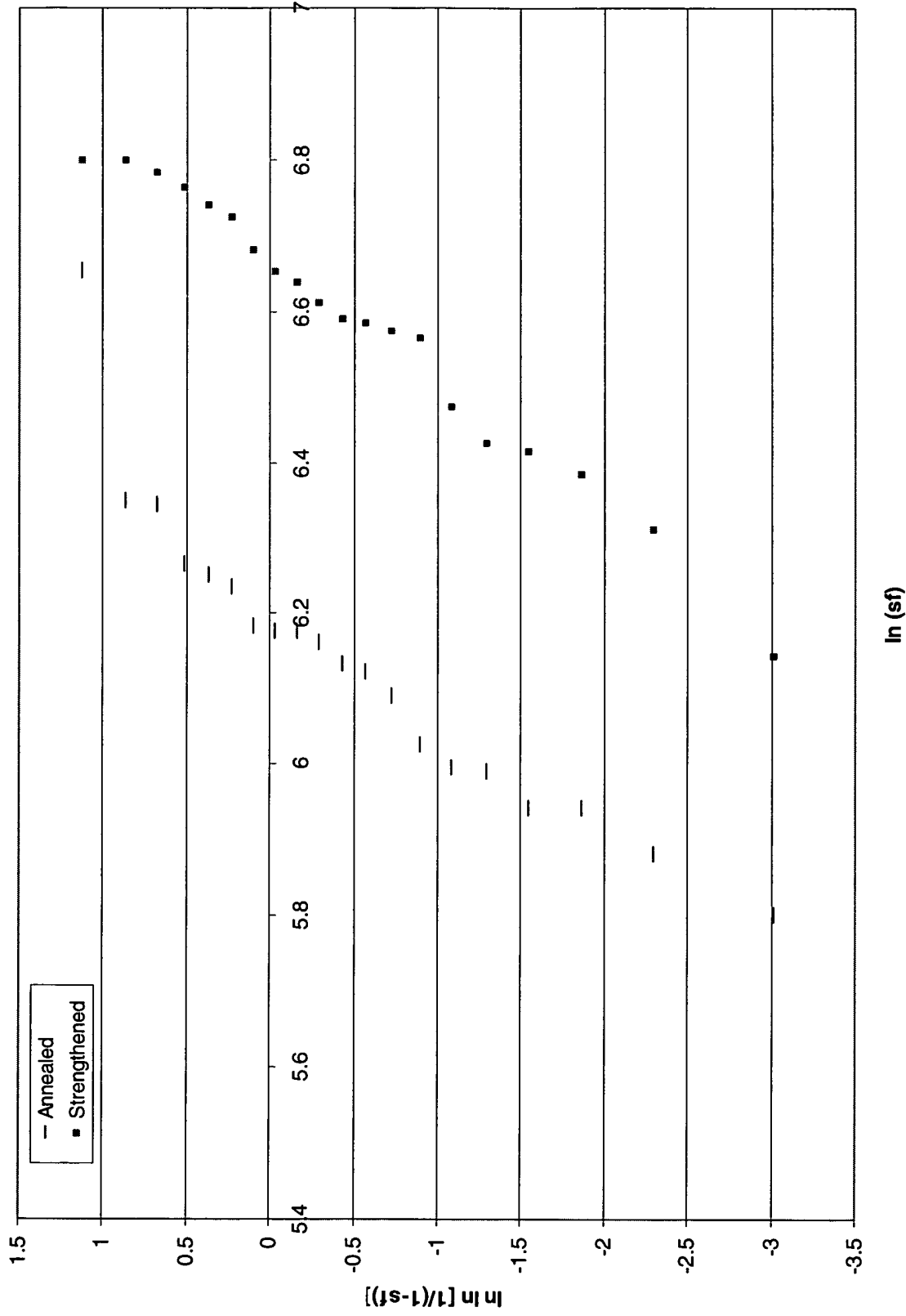


FIGURE 17

# RUN NO. 8

Pre-heat 5 m @ 510°C; dip 600°C; Flame Polish - Side and Bottom; 4 in/sec; Strengthen 20 m @ 520°C

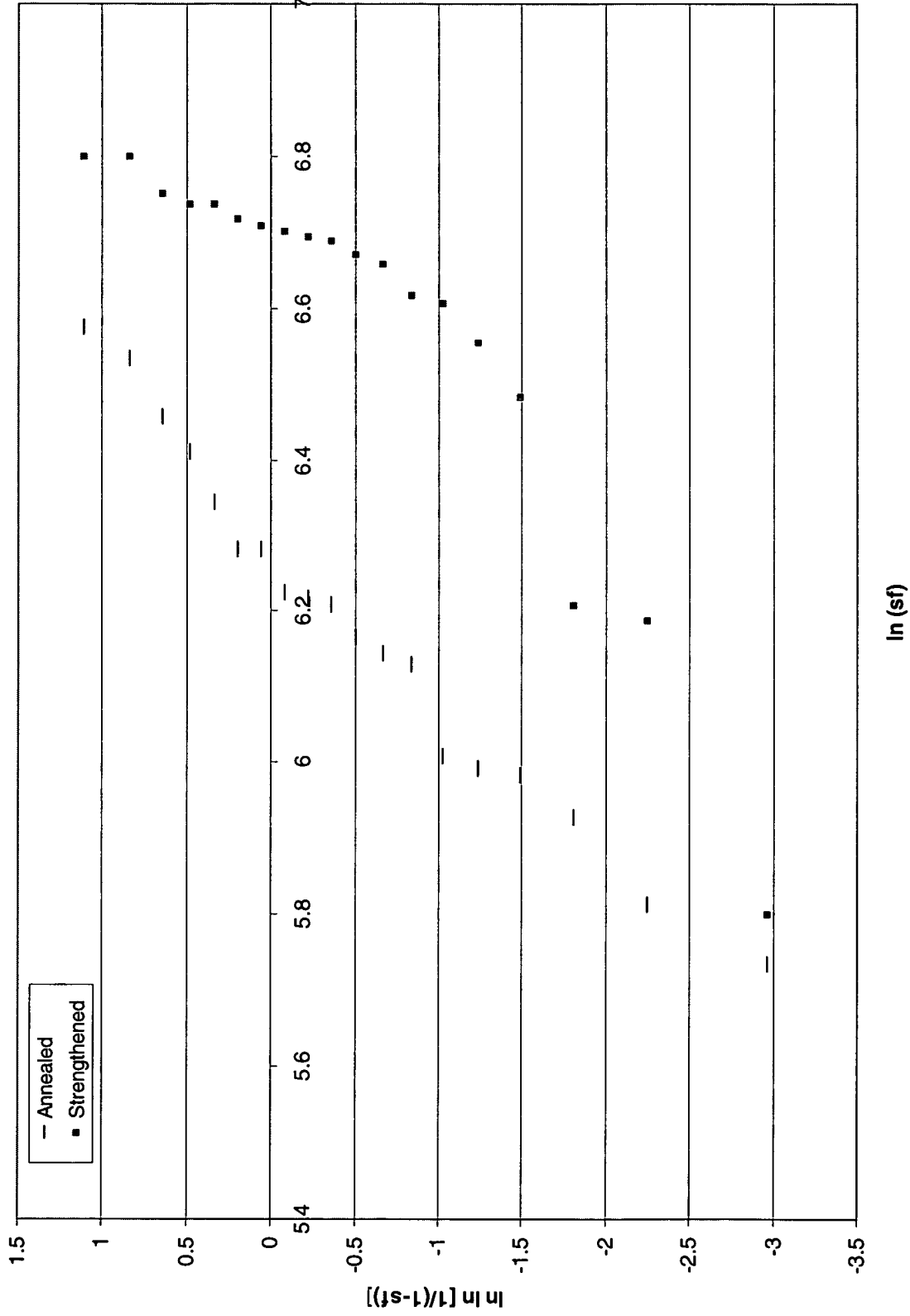
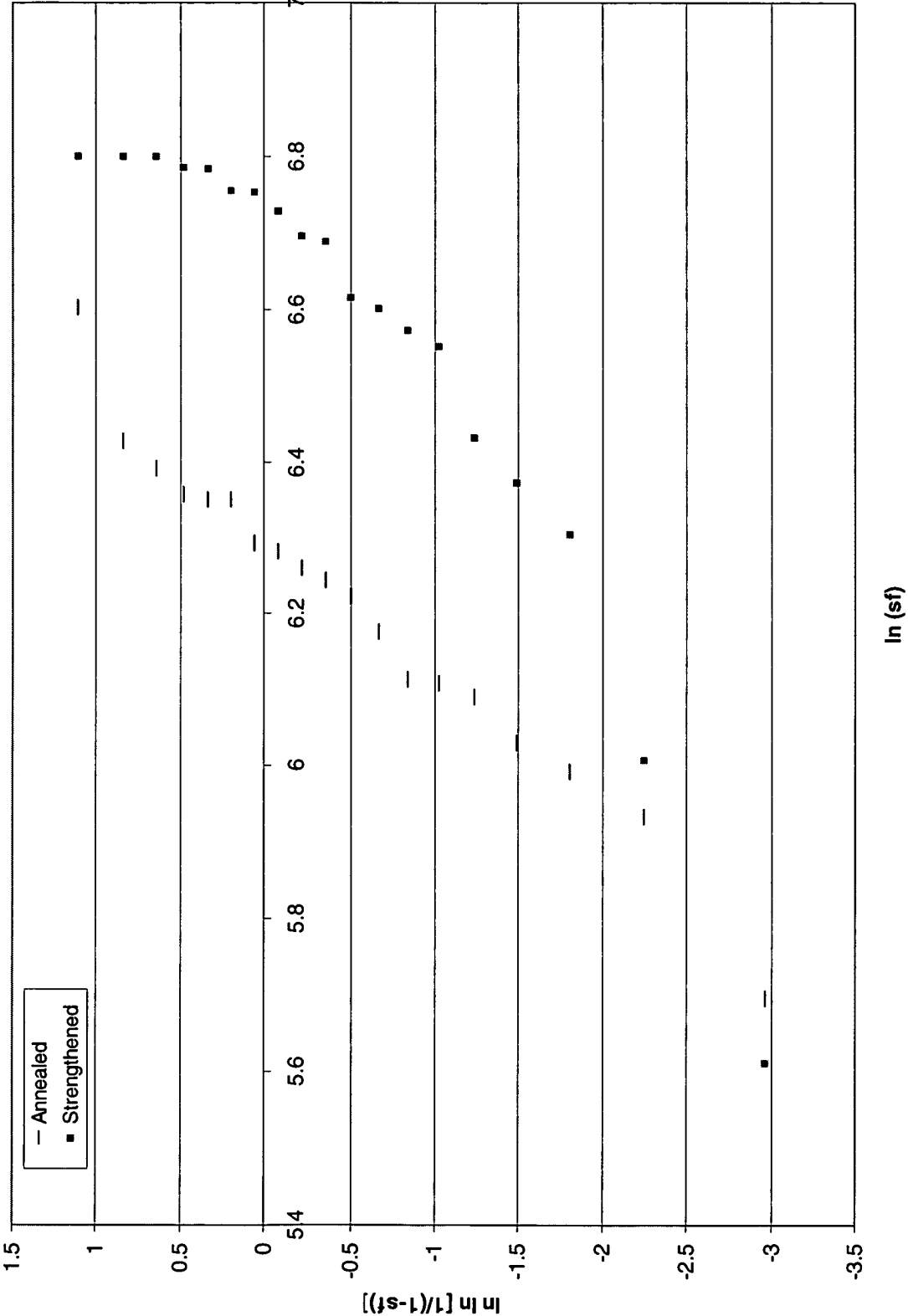


FIGURE 18

**RUN NO. 9**

**Pre-heat 5 m @ 550°C; dip 615°C; Strengthen 20 m @ 500°C**



**FIGURE 19**

# RUN NO. 10

Pre-heat 5 m @ 550°C; dip 615°C; Strengthen 20 m @ 500°C

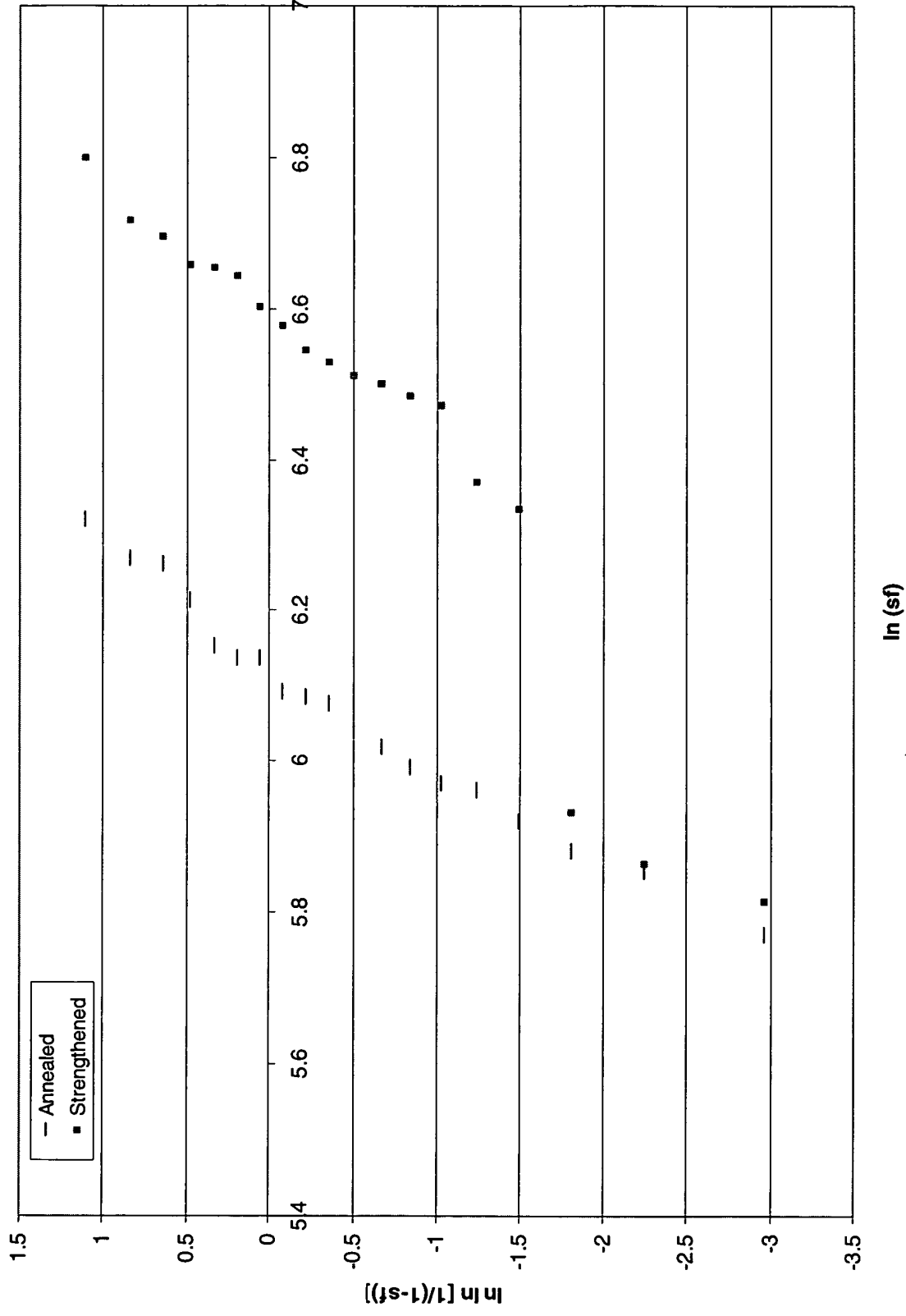
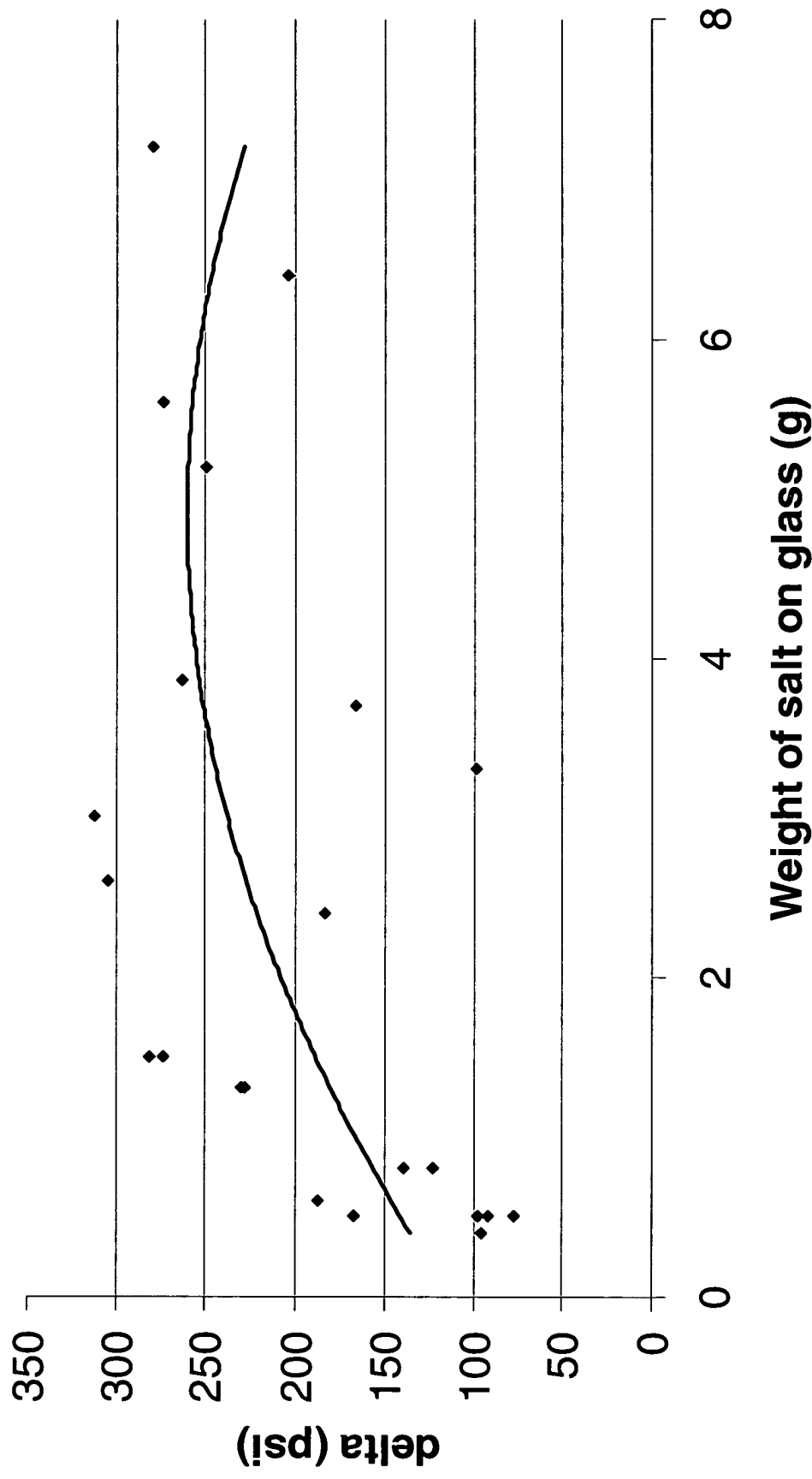


FIGURE 20

**Weight vs. Increased glass strength**



**FIGURE 21**

Exchanges performed at 520C for 20 minutes after dips in either 48 mol %  $\text{KNO}_3$  - 52 mol % KCl or 45 mol %  $\text{KNO}_3$  - 55 mol % KCl

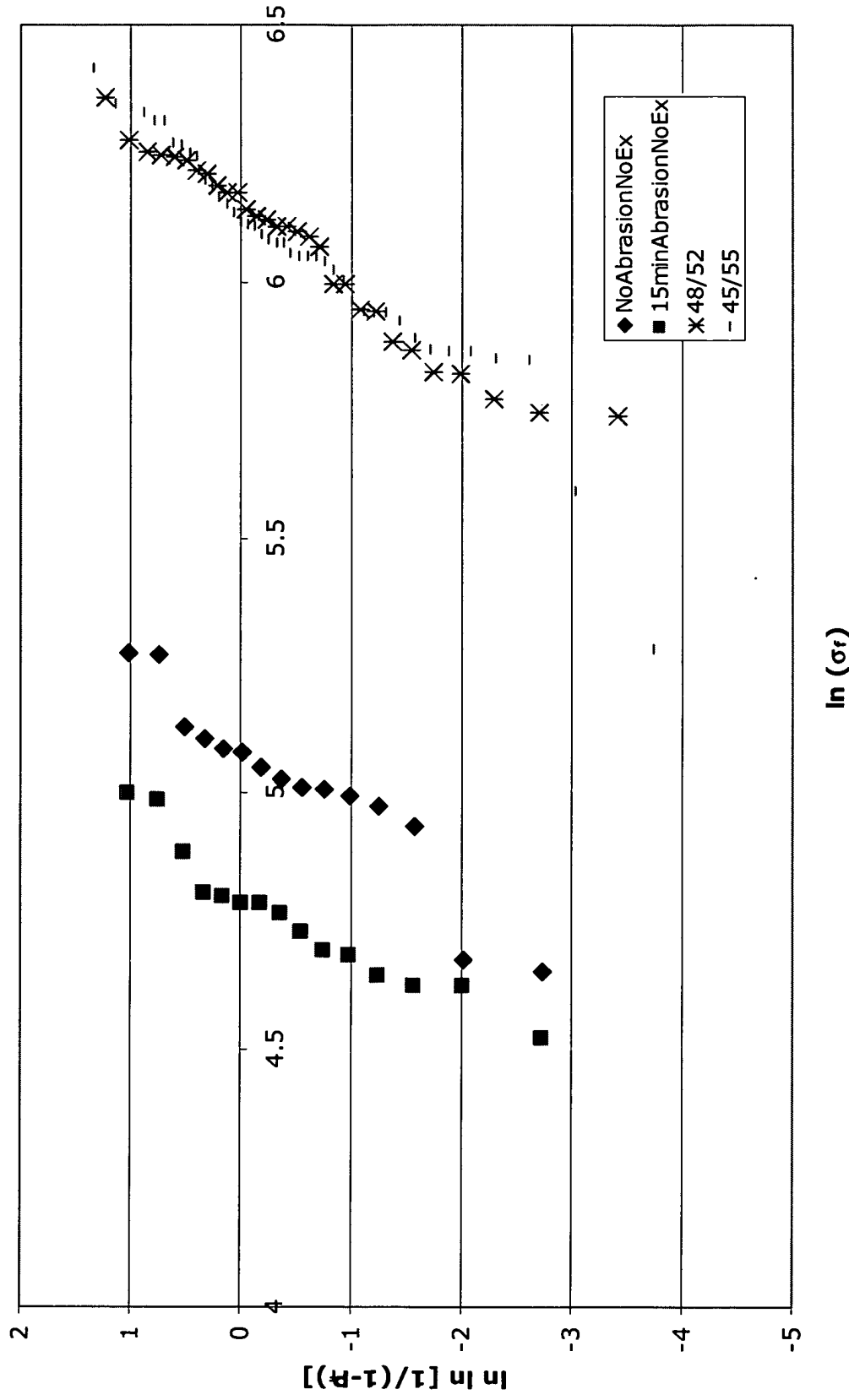
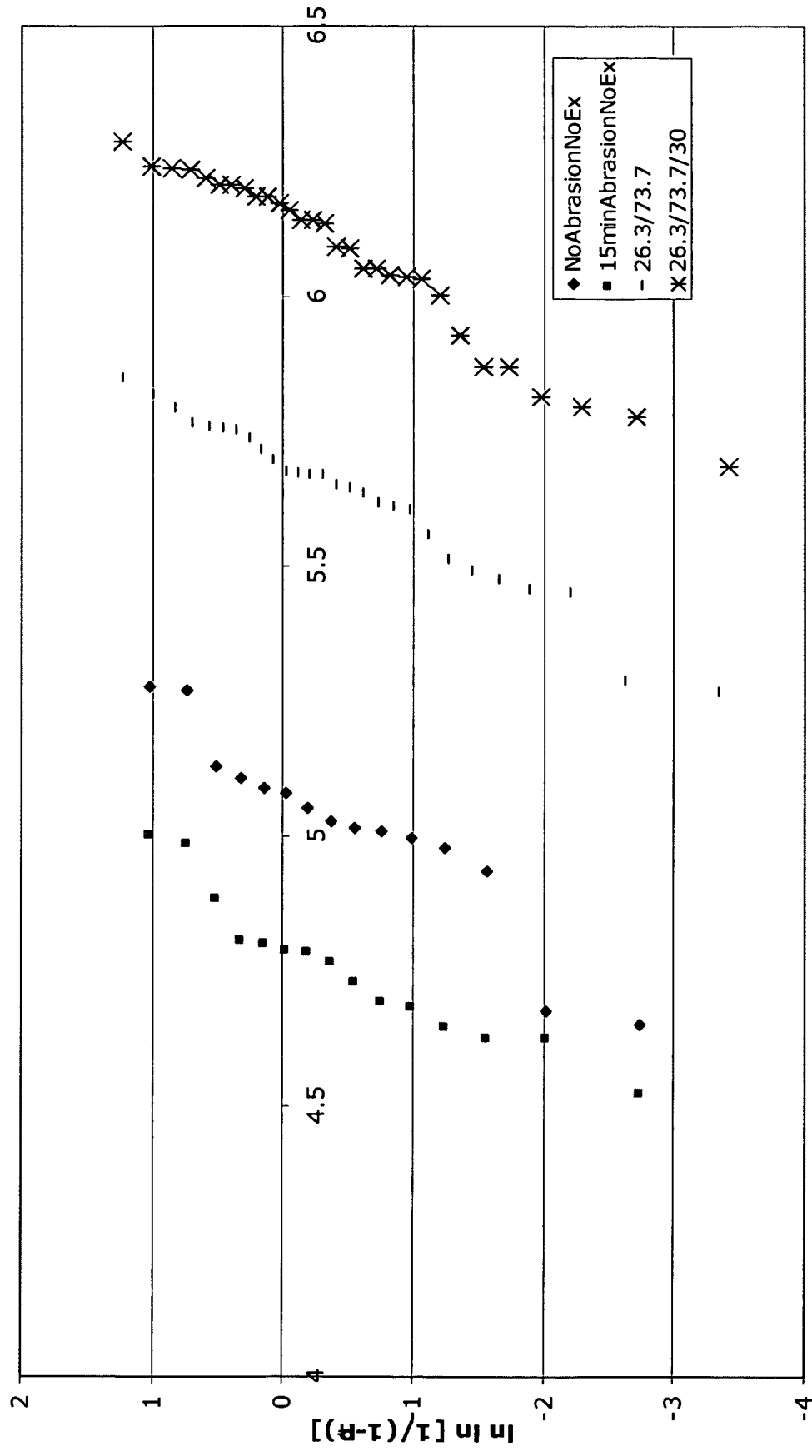


FIGURE 22

Rods exchanged at 520C for 20 minutes in 26.3 mol % K2SO4, 73.7 mol %KCl  
and 20.2 mol % K2SO4, 56.7 mol % KCl and 23.1 mol % KNO3.



$\ln (\sigma_r)$

FIGURE 23